



Carbon sequestration and New Zealand's indigenous forests

The global concern over deforestation can be seen to be soundly based when our nearby East Asian neighbours are visited. Laos and the Philippines have eight million hectares and ten million hectares respectively of degraded hill country subject to remorseless pressure for grazing and cropping in a grossly unsustainable manner. This ought to be viewed in the context of land mismanagement and not in the context of protection of rainforest, which is a laudable concern of "Western" societies insulated from the realities of day-to-day survival.

The rainforest process in New Zealand has been codified by (a) the Forest Accord between the forest industry and the conservationist groups, and (b) the Forests Amendment Act 1993. To me, it seems that there could be a further incentive which is based on the concerns with global warming, carbon dioxide emissions and sequestration demands exemplified by the Electricorp NZ (ECNZ) Stratford case.

President's comment

The Minister for the Environment's decision to support forest planting as a process of sequestration has two flaws. The first is that it is a temporary process of a rotation before positive sequestration ceases. The second is that it erodes the commercial basis for forest investment by having power consumers subsidising new planting by the increased power charges inevitable if ECNZ is to maintain its profit margin in a non-competitive economic environment.

Our Indigenous Forests

Both of these flaws could be addressed if encouragement was directed at enhancement of the growth potential of indigenous forests.

The first concern is to quantify the area and characteristics of indigenous forest on a national basis. Dave Field's Indigenous forestry working party is aware of this need, and the Ministry of Forestry has to be encouraged to give this task more resource. The second issue is the health and growth pattern of all indigenous areas including scrub and reverting farmland. The significance of this latter category is



Peter Olsen

that this is the area of greatest sequestration potential.

If we take data from Newsome (1987) we can get a perspective on this. Included within pasture lands is 3,462,000 hectares of "scrub" and 1,629,000 hectares of "scrub and forests". In native grassland, 853,000 hectares is "scrub and forest", and, quite apart from these areas, the native forest estate has 6,267,000 hectares designated either scrub or forest: a total of 12,211,000 hectares.

If a crude assumption of five cubic metres/ hectare/ annum growth was applied

after deducting high forest and scrubland planted to exotic since 1987, we could expect six million hectares to annually sequester 30 million cubic metres (approximately 13 million tonnes) of carbon. Using NEFD modelling assumptions, this is equivalent to the effects of two million hectares of new exotic forest planting.

This leads to the main point of my interest in this issue. Should we, by virtue of our fortunate national forest situation, continue to support a nett sequestration approach, or should we risk an economically-fraught choice of gross emission reduction as a sane long-term target? It is difficult, while dealing with the hypocrisy of international posturing on this complex issue, to be able to give the Minister for the Environment a pragmatic professional viewpoint. He does, however, deserve support in taking a principled, albeit politically unpopular, stance on the need for New Zealand to make a positive contribution to the global changes necessary to reverse the accumulation of global atmospheric carbon dioxide.

Peter Olsen
President

References

Newsome P.F.J. 1987: "The Vegetative cover of NZ".
National Water & Soil Conservation Authority (Ministry of Works).

NZIF Handbook – Third Edition

After a gestation period similar to that of an elephant, the third edition of the Institute's handbook is about to be born.

Conception, a considerable time ago, was the result of the previous edition, (edited by Hamish Levack) being out of print and the current editor being observant (foolish?) enough to publicise the fact.

Furthermore much had changed in forestry since 1986 – the industry had grown and matured, issues that were topical in the 1980s are less significant now, and of course new issues have surfaced.

The new handbook attempts to capture forestry of the 1990s in its content.

Sections on Biodiversity, Forestry and Carbon Storage, Oversowing, Sustainable Management, and Training have been added.

In addition a substantially enlarged section on the marketing and utilisation of forest products is included, to reflect the moving emphasis of our industry.

Other changes that have been added include an index and sections providing commonly used forestry data such as slope correction factors, radii of plots, and tree heights.

Presentation is A4 format, with spiral binding to allow the book to lie flat while being used.